

CLAIMS

What is claimed is:

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- 1 1. A computer-readable medium comprising stored information that describes a first
2 musical composition for use in selecting the first musical composition from among a
3 plurality of other musical compositions that are similar to the first musical
4 composition, wherein the stored information comprises a plurality of classification
5 values that distinguish among features of the musical compositions.
 - 1 2. A computer-readable medium as recited in Claim 1, wherein the classification values
2 comprise at least one song attribute.
 - 1 3. A computer-readable medium as recited in Claim 1, wherein the song attribute
2 comprises at least one song attribute value indicating Weight, Intensity, Chord
3 Movement, Range, Harmony, Density, Expressiveness, Flow, Melodic Movement,
4 Mood Description, Consonance, Mood, Dynamics, Language, Ethnic Flavor, or Style.
 - 1 4. A computer-readable medium as recited in Claim 1, wherein the song attribute
2 comprises at least one song attribute value indicating Flexibility, Beat, Time
3 Signature, Rhythm Type, or Rhythm Description, or Tempo.
 - 1 5. A computer-readable medium as recited in Claim 1, wherein the song attribute
2 comprises at least one rhythm type value having a value of Straight 4, Shuffle, Swing,
3 Disco, Reggae, or Hip Hop Shuffle.
 - 1 6. A computer-readable medium as recited in Claim 1, wherein the song attribute
2 comprises at least one rhythm description value having a value of Rockin', Frenetic,
3 Steady, Throbbing, Free, Funky, Groovy, Syncopated, or Stiff.
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1 7. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise one or more voice values, each of which identifies one of a plurality
3 of voices present in the first musical composition.

1 8. A computer-readable medium as recited in Claim 1, wherein each of the voice values
2 is at least one of Raspy, Sweet, Sultry, Whiny, Forceful, Aggressive, Monotonous,
3 Clear, Processed, Jangly, Shimmering, Thick, Thin, or Lush.

1 9. A computer-readable medium as recited in Claim 1, wherein the classification values
2 comprise a mood value of Dreamy, Soothing, Fun, Depressing, Angry, Lonely,
3 Creepy, Groovy, Uplifting, Sexy, Rockin', or Neutral.

1 10. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise one or more voice values, each of which identifies one of a plurality
3 of voices present in the first musical composition, and wherein each of the voice
4 values is associated with a plurality of voice attributes of Range, Intensity,
5 Cleanliness, Rhythmic Activity, or Melodic Movement.

1 11. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise one or more voice values, each of which identifies one of a plurality
3 of voices present in the first musical composition, and wherein each of the voice
4 values is associated with a plurality of voice attributes of Prominence, Ornamentation,
5 Beat, Presence, or Flow.

1 12. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise one or more voice values, each of which identifies one of a plurality
3 of voices present in the first musical composition, and wherein each of the voice
4 values is associated with a plurality of voice attributes of Range, Intensity,
5 Cleanliness, Rhythmic Activity, or Melodic Movement.

1 13. A computer-readable medium as recited in Claim 1, wherein the classification values
2 further comprise a first voice value that identifies a first voice of a plurality of voices
3 present in the first musical composition, and wherein the voice value is associated
4 with a harmony value that identifies a second voice among the plurality of voices with
5 which the first voice harmonizes.

1 14. A method of creating stored information that describes a first musical composition for
2 use in selecting the first musical composition from among a plurality of other musical
3 compositions that are similar to the first musical composition, according to a plurality
4 of classification values that distinguish among features of similar kinds of musical
5 compositions, comprising the steps of:
6 receiving musical information from the first musical composition and determining its
7 features;
8 creating and storing a new set of the classification values for the first musical
9 composition based on the features that are determined; and
10 reviewing the new set of classification values based on quality control criteria.

1 15. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute.

1 16. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one song attribute value indicating Weight, Intensity, Chord Movement, Range,
4 Harmony, Density, Expressiveness, Flow, Melodic Movement, Mood Description,
5 Consonance, Mood, Language, Dynamics, Ethnic Flavor, or Style.

1 17. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least

3 one song attribute value indicating Flexibility, Beat, Time Signature, Rhythm Type,
4 Tempo, or Rhythm Description.

1 18. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one rhythm type value having a value of Straight 4, Shuffle, Swing, Disco, Reggae, or
4 Hip Hop Shuffle.

1 19. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one rhythm description value having a value of Rockin', Frenetic, Steady, Throbbing,
4 Free, Funky, Groovy, Syncopated, or Stiff.

1 20. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition.

1 21. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one voice values of Raspy, Sweet,
3 Sultry, Whiny, Forceful, Aggressive, Monotonous, Clear, Processed, Jangly,
4 Shimmering, Thick, Thin, or Lush.

1 22. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing at least one mood value of Dreamy, Soothing,
3 Fun, Depressing, Angry, Lonely, Creepy, Groovy, Uplifting, Rockin', Neutral, or
4 Sexy.

1 23. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and

4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic Movement.

1 24. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and
4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Prominence, Ornamentation, Beat, Presence, or Flow.

1 25. A method as recited in Claim 14, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and
4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic Movement.

1 26. A method as recited in Claim 14, wherein creating and storing the classification
2 values further comprises creating and storing a first voice value that identifies a first
3 voice of a plurality of voices present in the first musical composition, and wherein the
4 voice value is associated with a harmony value that identifies a second voice among
5 the plurality of voices with which the first voice harmonizes.

1 27. A method of matching information that describes a first musical composition to stored
2 information that describes a plurality of other musical compositions that are similar to
3 the first musical composition, wherein the stored information comprises a plurality of
4 classification values that distinguish among features of similar kinds of musical
5 compositions, comprising the steps of:
6 receiving first musical information that describes the first musical composition and
7 that includes a first set of classification values based on features of the first
8 musical composition;

9 receiving second musical information that describes the plurality of other musical
10 compositions and determining their features;
11 creating and storing a second set of the classification values for the plurality of other
12 musical compositions based on the features that are determined;
13 matching the first musical information to the second musical information based on the
14 classification values; and
15 creating and storing a list of one or more matching musical compositions selected
16 from among the plurality of other musical compositions based on the matching
17 step.

1 28. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute.

1 29. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one song attribute value indicating Weight, Intensity, Chord Movement, Range,
4 Harmony, Density, Expressiveness, Flow, Melodic Movement, Mood Description,
5 Consonance, Mood, Language, Ethnic Flavor, Style, or Dynamics.

1 30. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one song attribute value indicating Flexibility, Beat, Time Signature, Rhythm Type,
4 Tempo, or Rhythm Description.

1 31. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one rhythm type value having a value of Straight 4, Shuffle, Swing, Disco, Reggae, or
4 Hip Hop Shuffle.

1 32. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one song attribute that comprises at least
3 one rhythm description value having a value of Rockin', Frenetic, Steady, Throbbing,
4 Free, Funky, Groovy, Syncopated, or Stiff.

1 33. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices or instruments present in the first musical
4 composition.

1 34. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one voice values of Raspy, Sweet,
3 Sultry, Whiny, Forceful, Aggressive, Monotonous, Clear, Processed, Jangly,
4 Shimmering, Thick, Thin, or Lush.

1 35. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing at least one mood value of Dreamy, Soothing,
3 Fun, Depressing, Angry, Lonely, Creepy, Groovy, Uplifting, Rockin', Neutral, or
4 Sexy.

1 36. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and
4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic Movement.

1 37. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and

4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Prominence, Ornamentation, Beat, Presence, or Flow.

1 38. A method as recited in Claim 27, wherein creating and storing the classification
2 values comprises creating and storing one or more voice values, each of which
3 identifies one of a plurality of voices present in the first musical composition, and
4 wherein each of the voice values is associated with a plurality of voice attributes of
5 Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic Movement.

1 39. A method as recited in Claim 27, wherein creating and storing the classification
2 values further comprises creating and storing a first voice value that identifies a first
3 voice of a plurality of voices present in the first musical composition, and wherein the
4 voice value is associated with a harmony value that identifies a second voice among
5 the plurality of voices with which the first voice harmonizes.

1 40. A method as recited in Claim 27, further comprising weighting each of the
2 classification values using a pre-defined weight value prior to carrying out the
3 matching step.

1 41. A method as recited in Claim 27, further comprising weighting each of the
2 classification values based on prior matches of the first musical composition to other
3 musical compositions that are associated with a particular client prior to carrying out
4 the matching step.

1 42. A method as recited in Claim 27, wherein the matching step comprises computing a
2 difference value of each a pair of associated classification values of the first
3 information and the second information, computing a square of the difference values,
4 and computing a sum of the differences.

1 43. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among the plurality of other musical
3 compositions based on a plurality of pairs of associated classification values.

1 44. A method as recited in Claim 33, wherein the matching step comprises matching
2 musical compositions selected from among the plurality of other musical
3 compositions based on a plurality of pairs of associated classification values and by
4 additionally using pre-defined metadata that defines one of the voices as similar to
5 another of the voices.

1 45. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the rhythm types as similar to another
5 of the rhythm types.

1 46. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the rhythm descriptions as similar to
5 another of the rhythm descriptions.

1 47. A method as recited in Claim 27, wherein the matching step comprises matching
2 musical compositions selected from among a plurality of other musical compositions
3 based upon a plurality of pairs of associated classification values and by additionally
4 using pre-defined metadata that defines one of the rhythm time signatures as similar
5 to another of the rhythm time signatures.

- 1 53. A method as recited in Claim 27, further comprising the steps of selecting and audibly
2 playing one of the musical compositions from a stored collection of the musical
3 compositions based on the list.
- 1 54. A graphical user interface useful for selecting a first musical composition from among
2 a plurality of other musical compositions that are similar to the first musical
3 composition, based on stored information that comprises a plurality of classification
4 values that distinguish among features of the musical compositions, the graphical user
5 interface comprising a plurality of graphical interface widgets that may be used to
6 select a particular value for each of the classification values.
- 1 55. A graphical user interface as recited in Claim 54, comprising a plurality of song
2 attribute graphical user interface widgets, each of which is configured to set at least
3 one song attribute value indicating Weight, Intensity, Chord Movement, Range,
4 Harmony, Density, Expressiveness, Flow, Melodic Movement, Mood Description,
5 Consonance, Mood, Language, Ethnic Flavor, Style, or Dynamics.
- 1 56. A graphical user interface as recited in Claim 54, comprising a plurality of song
2 attribute graphical user interface widgets, each of which is configured to set at least
3 one song attribute value indicating Flexibility, Beat, Time Signature, Rhythm Type,
4 Tempo, or Rhythm Description.
- 1 57. A graphical user interface as recited in Claim 54, comprising a plurality of song
2 attribute graphical user interface widgets, each of which is configured to set at least
3 one rhythm type value having a value of Straight 4, Shuffle, Swing, Disco, Reggae, or
4 Hip Hop Shuffle.
- 1 58. A graphical user interface as recited in Claim 54, comprising a plurality of song
2 attribute graphical user interface widgets, each of which is configured to set at least

3 one rhythm description value having a value of Rockin', Frenetic, Steady, Throbbing,
4 Free, Funky, Groovy, Syncopated, or Stiff.

1 59. A graphical user interface as recited in Claim 54, comprising a plurality of voice
2 graphical user interface widgets, each of which is configured to set one or more voice
3 values, each of which identifies one of a plurality of voices present in the first musical
4 composition.

1 60. A graphical user interface as recited in Claim 54, comprising a plurality of voice
2 attribute graphical user interface widgets, each of which is configured to set one or
3 more voice values, wherein each of the voice values is at least one of Raspy, Sweet,
4 Sultry, Whiny, Forceful, Aggressive, Monotonous, Clear, Processed, Jangly,
5 Shimmering, Thick, Thin, or Lush.

1 61. A graphical user interface as recited in Claim 54, comprising a mood attribute
2 graphical user interface widget configured to set a mood value of Dreamy, Soothing,
3 Fun, Depressing, Angry, Lonely, Creepy, Groovy, Uplifting, Rockin', Neutral, or
4 Sexy.

1 62. A graphical user interface as recited in Claim 54, comprising one or more voice
2 attribute graphical user interface widgets configured to set one or more voice values,
3 each of which identifies one of a plurality of voices present in the first musical
4 composition, and wherein each of the voice values is associated with a plurality of
5 voice attributes of Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic
6 Movement.

1 63. A graphical user interface as recited in Claim 54, comprising one or more voice
2 attribute graphical user interface widgets configured to set one or more voice values,
3 each of which identifies one of a plurality of voices present in the first musical

4 composition, and wherein each of the voice values is associated with a plurality of
5 voice attributes of Prominence, Ornamentation, Beat, Presence, or Flow.

1 64. A graphical user interface as recited in Claim 54, comprising one or more voice
2 attribute graphical user interface widgets configured to set one or more voice values,
3 each of which identifies one of a plurality of voices present in the first musical
4 composition, and wherein each of the voice values is associated with a plurality of
5 voice attributes of Range, Intensity, Cleanliness, Rhythmic Activity, or Melodic
6 Movement.

1 65. A graphical user interface as recited in Claim 54, comprising one or more voice
2 attribute graphical user interface widgets configured to set a first voice value that
3 identifies a first voice of a plurality of voices present in the first musical composition,
4 and wherein the voice value is associated with a harmony value that identifies a
5 second voice among the plurality of voices with which the first voice harmonizes.

1 66. A method of matching information that describes a first object to stored information
2 that describes a plurality of other objects that are similar to the first object, wherein
3 the stored information comprises a plurality of classification values that distinguish
4 among features of similar kinds of objects, comprising the steps of:
5 receiving first information that describes the first object and that includes a first set of
6 classification values based on features of the first object;
7 receiving second information that describes the plurality of other objects and
8 determining their features;
9 creating and storing a second set of the classification values for the plurality of other
10 objects based on the features that are determined;
11 matching the first information to the second information based on the classification
12 values; and
13 creating and storing a list of one or more matching objects selected from among the
14 plurality of other objects based on the matching step.

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- 1 67. A method as recited in Claim 66, in which the object is a pre-recorded motion picture.
- 1 68. A method as recited in Claim 66, in which the object is a book..
- 1 69. A method as recited in Claim 66, in which the object is a television program.
- 1 70. A method as recited in Claim 66, in which the object is a beverage.
- 1 71. A method as recited in Claim 66, in which the object is a work of art.
- 1 72. A method as recited in Claim 66, in which the object is a perfume.
- 1 73. A method as recited in Claim 66, in which the object is a human model.
- 1 74. A method as recited in Claim 66, in which the object is a game.
- 1 75. A method as recited in Claim 66, in which the object is a food.
- 1 76. A method as recited in Claim 66, in which the object is a piece of apparel.